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FCPX
ESSENTIAL GUIDE

G|RACK™ 12
High-Performance NAS

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G-RACK 12 FCPX Essentials Guide

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Overview

Videos use a tremendous amount of storage. Demand for for video is nearly insatiable. Digital video is eroding TV video each year. This means that both videos for broadcast, while still dominate, is in a competition for eyeballs.

The tool that Apple creates and promotes for editing videos on OS X is called Final Cut Pro X (FCPX). Final Cut Pro X is the name given to a series of non-linear video editing software programs - first developed by Macromedia Inc. and later Apple Inc. The most recent version, Final Cut Pro X 10.2, runs on Intel-based Mac OS computers powered by OS X version 10.10 or later. The software allows users to log and transfer video onto a hard drive (internal or external), where it can be edited, processed, and output to a wide variety of formats. The fully rewritten and re-imagined Final Cut Pro X was introduced by Apple in 2011, with the last version of the legacy Final Cut Pro being version 7.0.3. Since the early 2000s, Final Cut Pro has developed a large and expanding user base, mainly video hobbyists and independent filmmakers.

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Does G-RACK 12 support Final Cut Pro X?

GRACK-12 Absolutely supports Final Cut Pro X. The performance and storage capacity of GRACK-12 along with proper security and multiple methods of access makes GRACK-12 the suitable companion for all your FCPX workflows.

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What do I need to know to get the server ready to work optimally with FCP?

FCPX likes to have its resources close.
What that means is that by default is it does not work well with data over some network connections like AFP and SMB/CIFS. G-RACK 12 provides two methods of connection that do work well and provides the speed needed to allow Macs to connect to the server in a manner that makes FCPX happy and not slow down the video editing process.

Picking what works best for you.
There are two types of Workspaces you can create that work well with FCPX. Both NFS and iSCSI connections are geared for video editing using FCPX. Each provide different connection processes and and data transfer methods. By support both connection types you can choose the one that works best for your configuration and that provides the most performance in your network environment.

If you have selected NFS you will want to become familiar with the settings and parameters available on the G-RACK 12 server.

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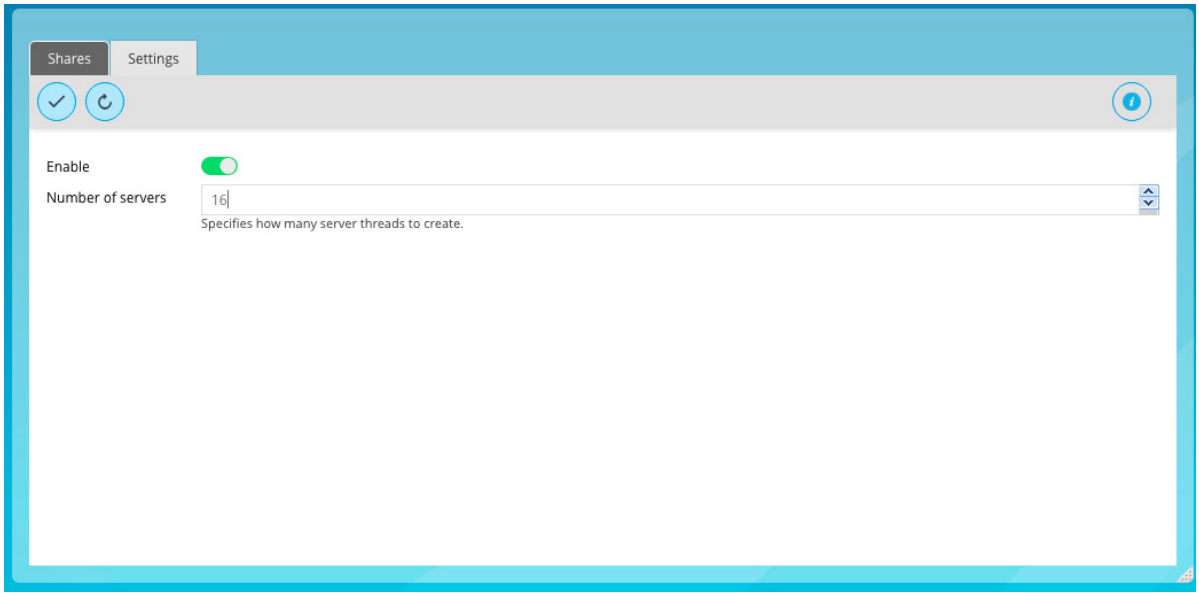
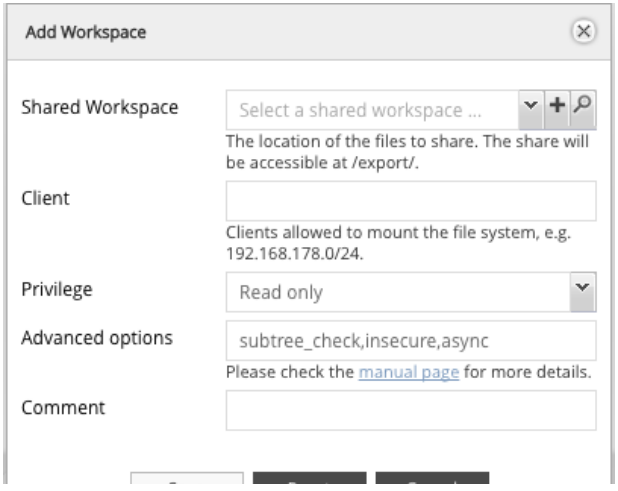
For NFS in Settings change the Number of Servers from 8 to 16.

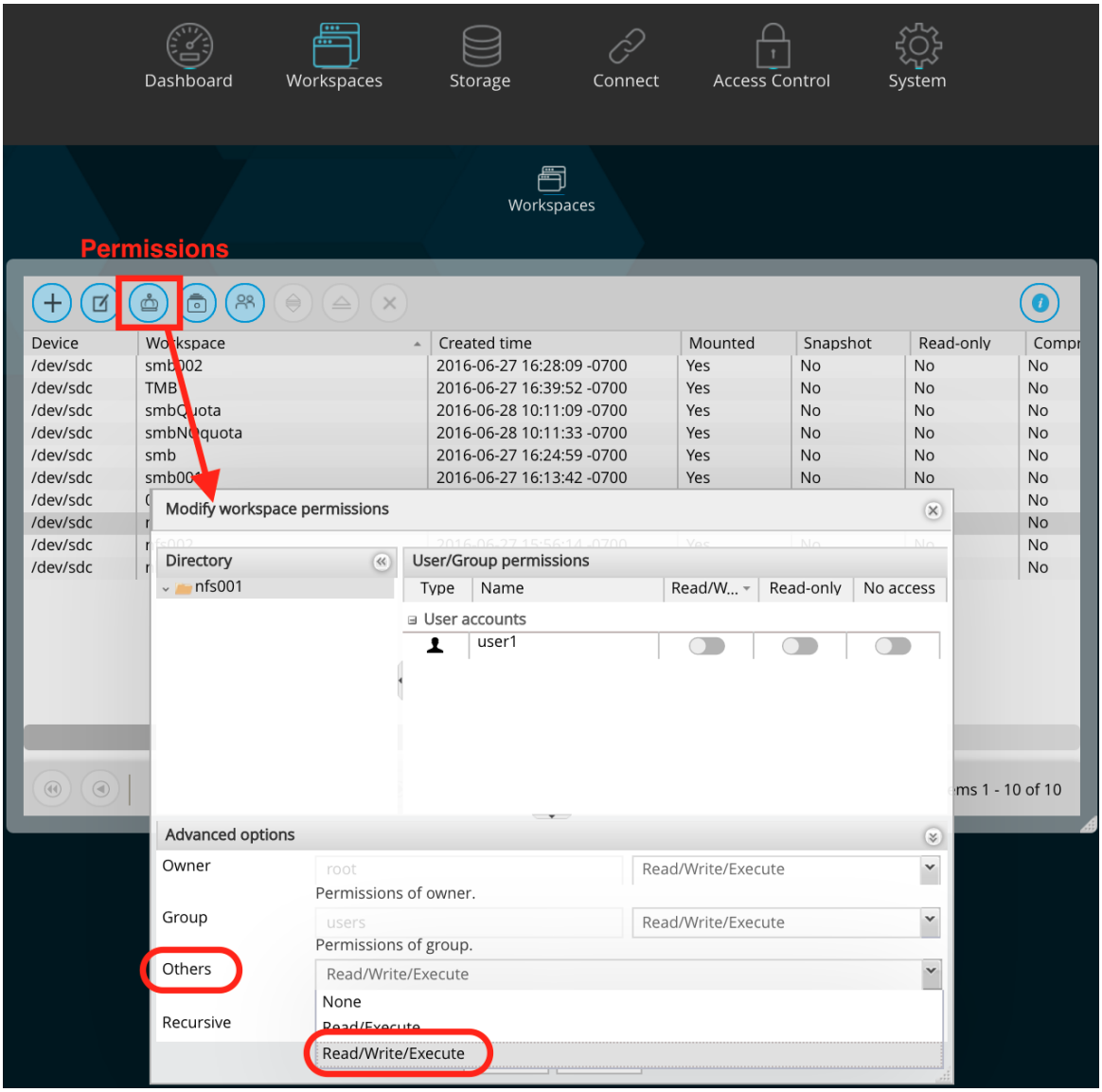


Alter the Advanced Options field: no_subtree_check,insecure,async



NOTE: Change Add Workspace window the admin has to change privileges from 'Read only' to "Read/Write"

Admin ALSO has to confirm in Workspaces > (highlight NFS Workspace) Permissions > Advanced options > "Others" is set to Read/Write/Execute.


Dashboard
Workspaces
Storage
Connect
Access Control
System
Workspaces
Permissions
Device
Workspace
Created time
Mounted
Snapshot
Read-only
/dev/sdc smb002 2016-06-27 16:28:09 -0700 Yes No No No
/dev/sdc TMB 2016-06-27 16:39:52 -0700 Yes No No No
/dev/sdc smbQuota 2016-06-28 10:11:09 -0700 Yes No No No
/dev/sdc smbNOquota 2016-06-28 10:11:33 -0700 Yes No No No
/dev/sdc smb 2016-06-27 16:24:59 -0700 Yes No No No
/dev/sdc smb001 2016-06-27 16:13:42 -0700 Yes No No No
Modify workspace permissions
Directory
nfs001
User/Group permissions
Type
Name
Read/W...
Read-only
No access
User accounts
user1
Advanced options
Owner
root
Read/Write/Execute
Permissions of owner.
Group
users
Read/Write/Execute
Permissions of group.
Others
Read/Write/Execute
None
Recursive
Read/Write/Execute

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Configuring your Mac to access the G-RACK 12 and use FCP.

If you have selected iSCSI as your method of connecting.
Please review the G-RACK 12 iSCSI Essentials to get the optimal speed for your connections.

Understand that OS X does not come with native support for iSCSI. There are some good iSCSI initiator products on the market that allows OS X to support iSCSI but they do require a purchase.

To download GlobalSAN iSCSI initiator & Xtarget (this document will not cover Xtarget) start by creating an account with SNS. If you wish to bypass the limited-but-free trial version you can setup an account and request the required Permanent keys. To finish and start downloading the iSCSI initiator press the download button. The install process will require a restart so make sure all workstation data has been saved. Navigate to the newly downloaded GlobalSAN iSCSI Xtarget package and double-click to start the installation process. Follow the install procedure and reboot when prompted at the end of the process.

Once the application has been installed and the system restart has rebooted your workstation, access System Preferences from the Mac pulldown menu. Press the new GlobalSAN and Xtarget icon located at the bottom of System Preferences and follow SNS's instructions to RETRIEVE and ACTIVATE a permanent key.

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If you have selected NFS as your method of connecting.
This information applies to OS X - Version 10.11: "El Capitan" and Version 10.10: "Yosemite"

· Open terminal and do sudo -s. Enter password of client machine.
· cd /etc on client machine, run ls after
· Use nano or vi to open up nfs.conf file
· If your system has not been used for NFS before you may find your nfs.conf file empty at first. (This is where you can insert the mount_nfs commands as well so that you won't have to keep doing it through the command line each time you mount.)
· Enter the lines below into the nfs.conf:

```
nfs.client.nfsiod_thread_max = 128
nfs.client.allow_async = 1
nfs.client.mount.options = vers=3,nfs,tcp,async,rwsize=65536,rdirplus,intr,locallocks
nfs.server.async = 1
nfs.server.nfsd_threads = 16
```

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FCPX/NFS G-RACK 12 Workflow Overview

G-RACK 12 excels in the shared environment. Utilizing this dual-share / dual-protocol workflow, Final Cut Pro X can once again enjoy the benefits of network connectivity and performance in a shared workflow.

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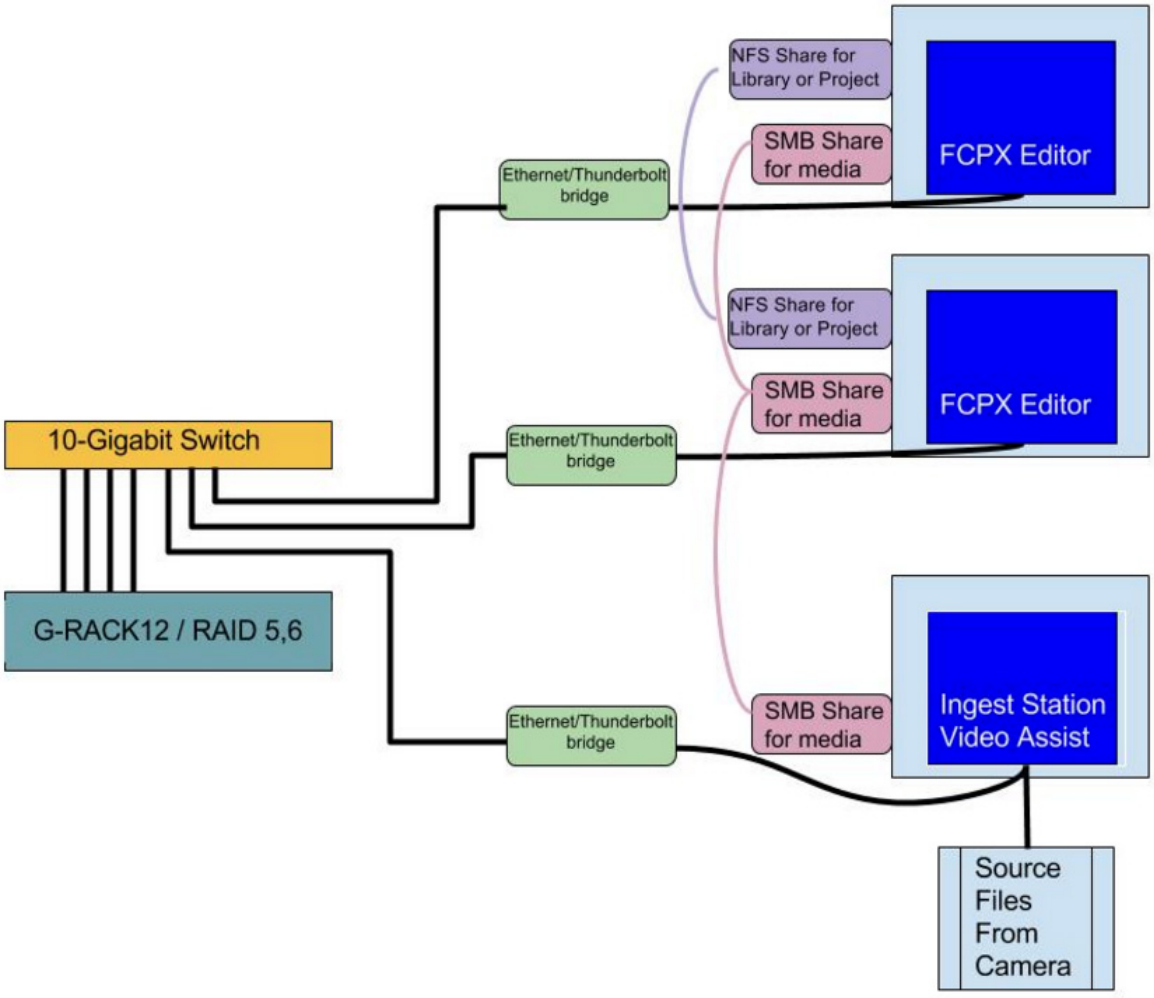
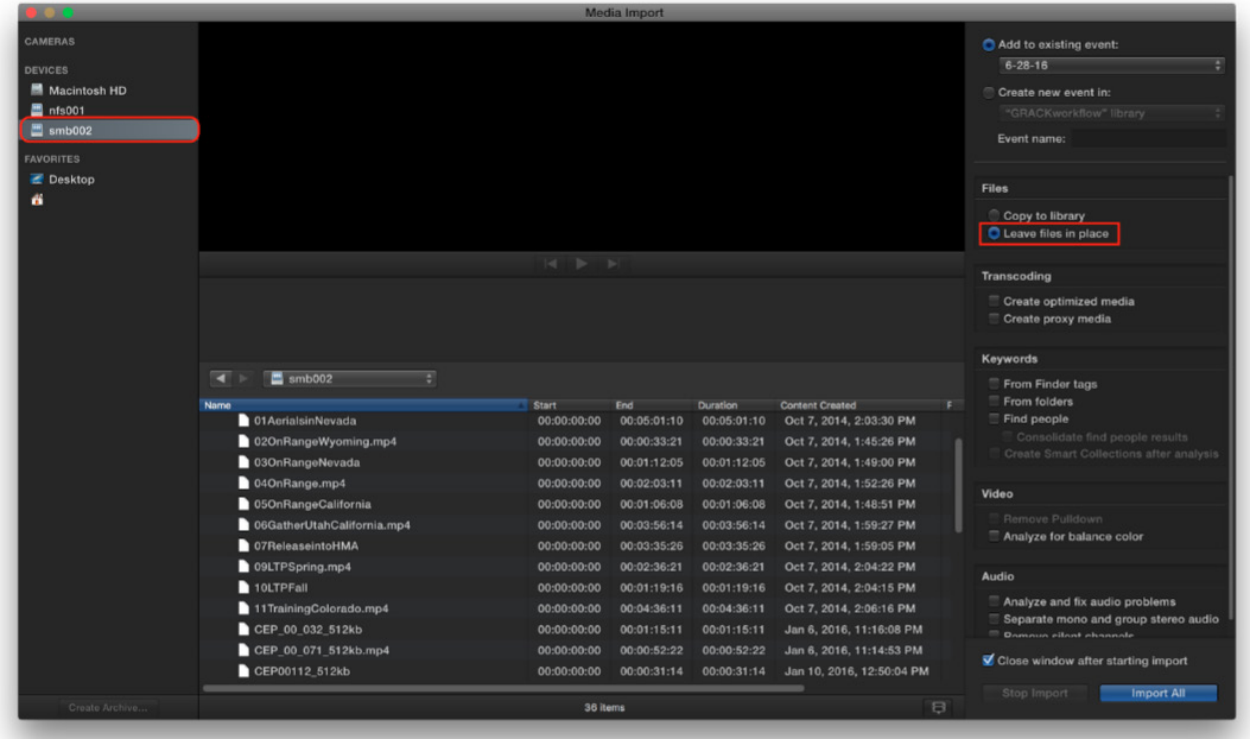
The high-level overview

- One ingest client transfers media to an SMB share.
- One (or more) editing client(s) mounts the same SMB share for accessing the media along with a separate NFS share for Library bundles.



The editing client(s) creates and edits from a Library bundle on an NFS share. The key factor for the Library bundle is that it links to select the "Leave Files in Place" option during the FCPX > Import operation for the media on the SMB share during import. This allows for media and project files to live in different locations.



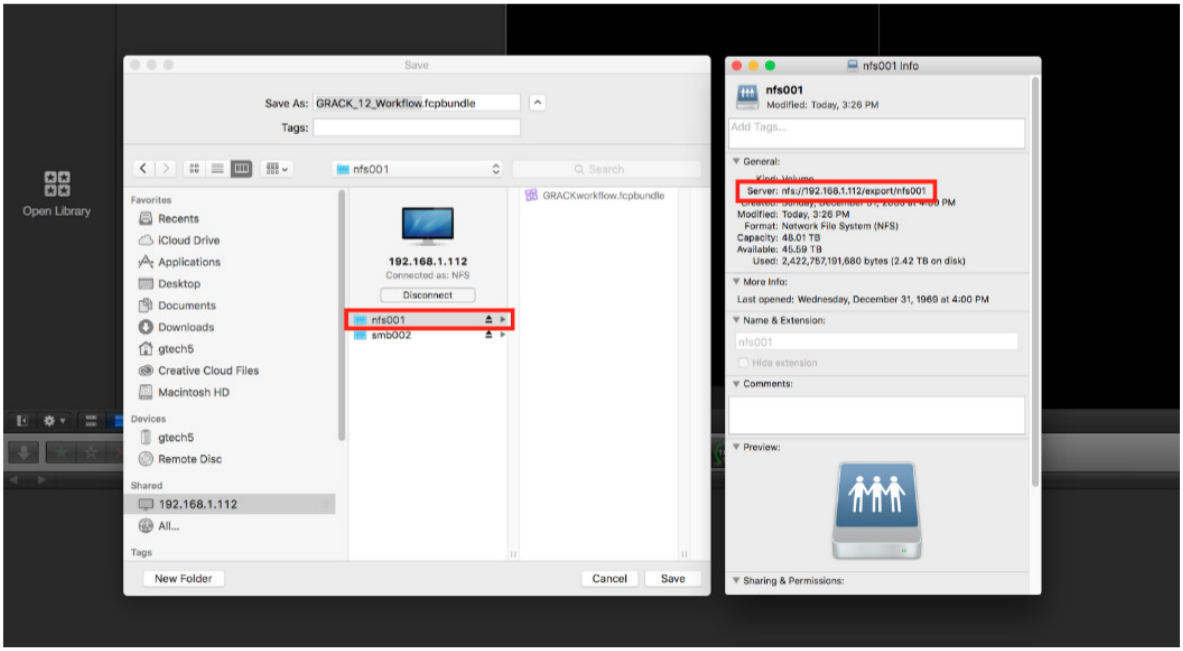
The Why

The most widely-used sharing protocols (network communication formats) are installed onto GRACK 12's structure and each serves a different function. Protocols can be analogous to driving across country. There are many different routes one could take. Each route has their unique benefits and shortcomings.

Because OSX & network share compatibility is limited, you can not save a Library bundle to an SMB share. You can, however, read files from an SMB share to FCPX rapidly. Conversely you can save a Library bundle to an NFS share but the 'writes' for an NFS share are slower. Using the best attributes of both protocols in concert is the full solution.

Additional

After the client's nfs.conf file has been tuned (see NFS Essentials), the NFS share can be mounted and a Library bundle can be created. NFS protocol allows for multiple Macintosh clients to write to and read from the same network share.



G-RACK 12 has not introduced bin-sharing yet. However, the ability to share FCPX Project assets, link on-the-fly newly added files on the SMB share to the Library and read the same files simultaneously from multiple clients on the network will lead to higher productivity.

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Links and references

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Links and References

· http://images.apple.com/final-cut-pro/docs/Media_Management.pdf
· http://china.emc.com/collateral/white-papers/h13204-wp-emcisilon-and-finalcutproxworkflows.pdf
· http://itcaps.net/xtreem/index.php/resources/isilon/item/36-best-practices-for-nfsclient-settings
· http://serverfault.com/questions/363893/how-to-tune-nfs-client-on-macos-to-getlinux-like-performance